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The Psychological and Demographic Factors of Quality of Life in Older Adults

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Abstract. This research aims to determine the relationship between psychological and demographic factors, which are dispositional optimism, and self-efficacy are the psychological factors, meanwhile home, sex and ethnicity as the demographic factors of quality of life in the older adults. The major hypothesis of this research proposed that there are positive relationship from both psychological factors and demographic factors to the quality of life in older adults. This study involved 53 older adult peoples. The result of multiple regression analysis shows that there is a positive relationship from all five variables to the quality of life in older adults as big as 76,5% (Adjusted $R^2 = 0,765$). This result means that both the psychological and demographic factors do have effective contributions to the quality of life in older adult people. The results of t-tests are also discussed.

Keywords: *dispositional optimism, older adult people, quality of life, self efficacy*

Introduction

The older adults segment has the quickest increase in number in the population, and until today the factors of quality of life in older adults still haven't gotten one universal conclusion (Ma, 2014; Bond & Corner, 2004). Psychological factors as the internal factors of human have been shown to determine the quality of life in aging individuals (Steptoe, Wright, Ebrecht, & Iliffe, 2006; Barlow, Williams, & Wright, 1996; Stretton, Latham, Carter, Lee, & Anderson, 2006), even when physical health becomes poor (Layte, Sexton & Savva, 2013). Dispositional optimism together with self-efficacy are deemed as some of key psychological factors in the older adults. (Kostka & Jachimowicz, 2010).

The relationship's value between these psychological measures and quality of life might be different in varied older adults community, affected by various external factors like behaviors related to health promotion, functional status, concomitant illness, and sociodemographic factors (Stretton et al., 2006). It is

important to involve both psychological and demographic factors to determine the predictor of quality of life in aging individuals, and home, ethnicity and sex are some of the sociodemographic factors that considered key factors to be included as the predictors of quality of life in older adults (Kostka & Jachimowicz, 2010).

Dispositional optimism is an expectation for positive results in life. Optimism scores significantly decrease with advancing age (Giltay, Zitman, & Kromhout, 2006). Evidence including results from a systematic review shows that high dispositional optimism will increase psychological well-being of someone (Huang et al., 2017; Cohen, Daniela & Lorber, 2010), but will not affect physical health component of quality of life (Weng et al., 2013). Optimism also proven to influences physical and mental quality of life via different pathways (Ramsay et al., 2015). It maintains higher quality of life in older adults compared with pessimists when trajectories related to death were considered (Zaslavsky et al., 2015; Zenger et al., 2010).

Self-efficacy has proven to be a functional measure of broad adaptational outcomes (Barlow, Williams, & Wright, 1996). A systematic review of 76 studies shows that self-efficacy positively associated with quality of life (Huang et al., 2017). Another systematic review of found that self-efficacy has positive association with quality of life in some studies, while some other studies showed weak or no association (Crellin et al., 2014). Further, a more recent study found that self-efficacy was not associated with either psychological quality of life or social relationship quality of life (Perry, Casey & Cotton, 2015). Self-efficacy does have a favorable influence to the quality of life of person with diabetes mellitus disease (Asri, 2006), as well as hear failure patients (Buck et al., 2015). Similar results proven that self-efficacy influence the quality of life in person with lung tuberculosis disease (Sulaiman, 2009) and other chronic conditions (Cramm et al., 2013). It could be utilised as well in interventions to improve well-being of an individual (Guillamon et al., 2013; Kim et al., 2013). Self-efficacy was proven important in clinical settings

especially in terms of improving self-care maintenance of older adults with various physical diseases (Buck et al., 2015).

The environment and conditions of someone's home will affect that individual ability to become his or her own self and to be able to perform his or her daily task effectively, then affect his or her own quality of life (Vaarama, Pieper, & Sixsmith, 2008). Some studies shown that older age people who lives at nursing home have a higher quality of life than older age people who lives at his or her own house (Brajkovic, Garden, Godan, & Godan, 2009; Jayanegara, 2007). Another study found almost no differences in quality of life of older people in nursing home and own home (Bleijlevens et al., 2014). Further a study found that older adults in nursing homes suffered from poor quality of life compared to living in home (Xiao, Yoon, & Bowers., 2016).

Ethnicity will determine quality of life by the traditions belong to a particular ethnic, particular tradition such as the habit to accept the conditions and situations happening in life will give influence to the increasing of quality of life (Bond & Corner, 2004). A study shown that members of an ethnic minority group in Netherlands have lower quality of life compared to native Dutch persons (Flink et al., 2013). Individual with Java ethnicity have the basic principle of '*nerimo*', which means accepting situations happening in their own life, this basic principle combined with their life-goals to behave goodly and nicely will help increase their quality of life (Sutarto, 2006). Different with the Java ethnicity, the quality of life from individual with Tionghoa ethnicity can be predicted with their economical activities and conditions (Zhang, 2010; Turner & Allen, 2007).

The sex differences will diverse the way of achieving quality of life in someone (Forshee, 2006). A recent study found that sex differences was a significant predictor of mental health-related quality of life, with women reported poorer mental health-related quality of life compared to men (Wagner et al., 2016). Further, female stroke patients were significantly more negatively affected in their quality of life than male stroke patients (Franzen-Dahlin & Laska, 2012). There's a difference

between the results of previous studies that proves there's a relationship between sex differences and quality of life (Sutikno, 2011) and there's no relationship between them (Mandagi, 2010).

Interestingly, studies in Indonesia describing the relationship between both psychological and demographic factors to the quality of life in older adults were scarce in available literature. Therefore, the objective of this study was to describe the association of dispositional optimism, self-efficacy, as the psychological factors with home, sex categories and ethnicity as the demographic factors to quality of life in older adults, and also to describe the differences in quality of life of older age people differed by their home, ethnicity, and sex categories. These factors were chosen as they were relevant with Indonesian older adults community and have yet to be investigated. The research questions are do dispositional optimism, self-efficacy, home, sex categories and ethnicity have relationships with quality of life in older adults? And are there any differences of quality of life in older adults considering their home, ethnicity, and sex categories? It was hypothesized that these psychological measures and socio-demographical factors would contribute positively to the quality of life, and there are differences in older age people's quality of life.

Method

The study was done involving populations of older age individuals who take residence in Middle Java. The subjects are older age individuals aged 60 years old or more, male or female, belong to Java or Tionghoa ethnicity, and reside in either his or her own house or in a nursing home. Sampling technique used is the purposive sampling. 30 subjects participated in try-out phase, and 53 subjects agreed to participate in the study. Regression model was used to analyze the data. Dispositional optimism and self-efficacy were treated as continuous variables while home, ethnicity and sex categories were treated as dummy variables. Age and

education will be provided as socio-demographics data to help understand the research's context.

Table 1 below shows the characteristics of study participants. The balance proportions of home, ethnicity, and sex categories were made in maximum 60:40 proportions to assure the validity of nominal variables effective contributions.

Table 1.
Subject's Characteristics

Sociodemographic	Category	Number	Percentage
Age	60 – 69 years old	25	47,16%
	70 – 79 years old	19	35,84%
	80 years old above	9	16,98%
Education	Elementary school	19	35,84%
	Junior high school	7	13,20%
	Senior high school	16	30,18%
	Bachelor	10	18,86%
	Master	1	1,88%
Home	House	21	39,62%
	Nursing home	32	60,37%
Ethnicity	Java	30	56,60%
	Tionghoa	23	43,39%
Sex Categories	Male	23	43,39%
	Female	30	56,60%

Indonesian adaptation of the WHOQOL-BREF (World Health Organization Quality Of Life Brief Scale) was used to assess quality of life. This scale comprises 24 items, extracted from four main areas of quality of life which are physical health, psychological health, social relations and environments (WHO, 2011). After validated in try-out phase, the scale shortened into 22 items. An Indonesian adaptation of the Life Orientation Test-Revised (LOT-R) developed by Scheier and Carver (Geers et al., 2008) was employed to measure dispositional optimism. This tool consists of 10 items, including six diagnostic ones that passed the try-out phase.

The last scale that used in this study is an Indonesian adaptation version of the General Self-Efficacy Scale (GSES) that comprises 9 items after validated in the try-out phase. This scale was used to measure self-efficacy without particular reference to specific situation or behaviour (Oei et al., 2007). The assessment included home, ethnicity, and sex category as the nominal variables, as well as age and education for the additional data. Internal consistency (Cronbach's alpha) obtained in try-out phase (0,894 for quality of life, 0,705 for dispositional optimism, and 0,861 for self-efficacy) comparable with previous reports.

The Pearson correlation was used to measure items validity in each scale. Normality and multicollinearity test performed as the assumption test. Linear regression with five predictors was used to determine the effective contributions of psychological and demographic factors to the quality of life. The significance limit was set at $P = 0,05$.

Result

Normality test shows that all four populations are distributed normally (0,509 for quality of life, 0,402 for dispositional optimism, and 0,177 for self-efficacy) with significance $p > 0,05$. Multicollinearity test shows all six independent variables free from the multicollinearity problems when the Tolerance values are larger than 0,1 and the VIF values are smaller than 10 (0,710 in Tolerance value and 1,409 in VIF value for dispositional optimism, 0,806 and 1,241 for self-efficacy, 0,482 and 2,073 for home, 0,743 and 1,347 for ethnicity, 0,592 and 1,690 for sex categories). Homogeneity test shows that equal variance not assumed in both home and sex categories variables (with significance values 0,041 for home and 0,028 for sex categories which both of them are below 0,05), and equal variance assumed in ethnicity variable (significance value 0,692 which far above 0,05). Table 2 presents descriptive analysis results on dependent variable and continuous independent variables.

Table 2.

Descriptive statistics data

Variable	N	Mean	Standard deviation	Minimum	Maximum
Quality of life	53	62.83	7.434	45	77
Dispositional optimism	53	16.40	2.097	13	21
Self-efficacy	53	26.04	3.669	18	36

The correlations value between five independent variables and quality of life is $F = 452,602$ with significance value $0,000$ ($p < 0,01$) which shows that there is a very significant positive relationships between all five independent variables and quality of life. The Adjusted R Square value is $0,765$ which means the effective contributions all six independent variables to quality of life is $76,5\%$. The effective contributions for each independent variable ($22,1\%$ for dispositional optimism, 13% for self-efficacy, $26,1\%$ for home, $15,7\%$ for ethnicity, and 1% for sex categories) calculated with Beta value times Zero Order value. Further, table 3 is used in order to describe Pearson correlation analysis.

Pearson correlation analysis (Table 3) shows that all variables have significant and positive relationships with quality of life. Only sex categories shows significant negative correlations with quality of life in older adults. The count t value ($-8,549$) is higher than the table t value ($-1,645$) with significance value $0,000$ in home variable, which shows that there is a difference in quality of life between older age people who lives in their own house and those who lives in nursing home. Mean value of quality of life in older adults who lives at their own house ($69,57$) is higher than those lives at nursing home ($58,41$) indicates that quality of life in older adults who lives at their own house are higher than the ones who lives at nursing home.

The count t value ($-5,581$) is also higher than the table t value ($-1,645$) with significance value $0,000$ in ethnicity variable, which shows the difference in quality of life between Javanese elder people and Tionghoa elder people. Mean value of

quality of life in Javanese older adults (66,80) is higher than Tionghoa older adults (57,65) that can bring conclusion that their quality of life is higher. Next, the count t value (4,761) is higher than the table t (1,645) with significance value 0,000 in sex categories variable, shows there is difference in quality of life between male and female older adults. The Mean value in male older adults (67,35) is higher than female older adults (59,37) indicates their quality of life is also higher.

Table 3.
Pearson correlation data

Correlations	Variables	Quality of life	Dispositional optimism	Self-efficacy	Home	Ethnicity	Sex categories
Pearson Correlation	Quality of life	1.000	.672	.559	.742	.616	-.537
	Disposition al optimism	.672	1.000	.313	.458	.369	-.438
	Self-efficacy	.559	.313	1.000	.416	.261	-.284
	Home	.742	.458	.416	1.000	.476	-.614
	Ethnicity	.616	.369	.261	.476	1.000	-.306
	Sex categories	-.537	-.438	-.284	-.614	-.306	1.000
Significance (1-tailed)	Quality of life	.	.000	.000	.000	.000	.000
	Disposition al optimism	.000	.	.011	.000	.003	.001
	Self-efficacy	.000	.011	.	.001	.030	.020
	Home	.000	.000	.001	.	.000	.000
	Ethnicity	.000	.003	.030	.000	.	.013
	Sex categories	.000	.001	.020	.000	.013	.

Discussion

This is one of the early study to inspect the effective contributions of key psychological factors such as dispositional optimism, self-efficacy, and demographic factors such as home, sex categories and ethnicity to the quality of life in Indonesian older age individuals. As expected, the psychological and demographic factors together contributed as large as 76,5% to the quality of life. Only sex categories have negative and significant relationship with quality of life, other variables have positive and significant relationships with quality of life.

This result strengthen the result of previous studies which mentioned that the quality of life in older adults was predicted by psychological factors such as dispositional optimism (Huang et al., 2017; Heo, 2010), and self-efficacy (Bandura, 1995; Huang et al., 2017; Kostka & Jachimowicz, 2010), and also demographic factors such as home (Xiao, Yoon, & Bowers., 2016; Jayanegara, 2007), sex categories (Wagner et al., 2016; Dewi, 2008; Heikkinen, Jallinoja, Saarni, & Patja, 2008), and ethnic (Turner & Allen, 2007; Jayanegara, 2007). The differences in quality of life differed by all three nominal variables are also strengthen the previous research conclusions (Turner & Allen, 2007).

The results show that dispositional optimism and home are two variables that greatly alter elder's quality of life. Proven before by existing studies before (Huang et al., 2017; Cohen, Daniela & Lorber, 2010), this study further the knowledge by confirming in Indonesian older adults population. It is evident now in Indonesia that increasing the tendency to positively view life events could greatly boost older adults' quality of life.

Providing a proper place to stay would also help to enhance older people's quality of life. Elder people in Indonesia prefer to live at their own house rather than staying in nursing house, rejecting the findings from Jayagenara's (2007) research. This might be the results of various factors, such as quality of nursing house, quality of social support obtained in own house, and other related elements. The close-knit

family relationships which is common in Indonesia may also be important factors determining older adults' choice to live at their own house.

Even though some evidences proved that self-efficacy was not associated with quality of life in several different populations (Crellin et al., 2014; Perry, Casey & Cotton, 2015), this study confirms otherwise, that self-efficacy predicts quality of life, especially in older individuals. We argue that this finding need to be further explored through qualitative analysis in order to explain deeper the dynamics of association between self-efficacy and quality of life.

It was also proven that Javanese elders are more likely to have a high quality of life compared to the Tionghoa elders, considering their ability to accept situations happening in their life (Sutarto, 2006). Unlike economic activities, this ability does not fade away as a person ages, ensuring sustainability of related outcomes such as quality of life. This research findings also gave better understanding that sex categories does have influence to the quality of life although it is very small. Meanwhile correlation analysis shows that sex categories has negative relationship with quality of life. This result contradicts with Mandagi's (2010) study that mentioned no relationship between them. Therefore future study is needed to clear these inconclusive facts.

A few limitations of the present study were identified. Some scales are left in order to give subjects the free time they needed to fill in the scales. This may have caused misperception in understanding the questions in scales. Next shortcoming is this study didn't included factors from physical conditions and social relationships that may also influenced the quality of life. The using of scale that comprises of all-favorable items may caused a response set, give subjects the tendency of filling all questions with all-favorable answers which disturbs the validity and reliability of the scale. The using of question that asked private part of subject's life caused the item left unfilled by the subjects.

This study adds more knowledge in terms of psychological and demographic factors' contribution to quality of knowledge, especially in the context

of older adults and Indonesia. As such, it addresses a gap in the evidence base which to date has been limited to studies in developed countries. It is hoped that this study will inform researchers and policy makers responsible for service aimed to older adults population in Indonesia.

Conclusion

We conclude that psychological and demographic factors like dispositional optimism, self-efficacy, home, ethnic and sexes are associated with quality of life, and the effective contributions from all six variables to quality of life are 76,5%. Interestingly, when analysed separately with Pearson correlation analysis, sex categories shows negative relationship with quality of life, compared with other variables who have positive relationships.

Suggestion

This older adults group should be provided with preventive psychosocial programs. Educational interventions, and such program that intervenes with the psychological profiles to enhance the positive quality such as optimism and self-efficacy might be most effective while considering the conditions of their home, the value of elder's ethnicity, and their sex categories to determine the best appropriate of programs. To further corroborate these findings, potential well-designed researches are of the utmost importance.

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